

**In the Claims**

The claims have been amended as follows:

- 1        1. (Currently Amended~~original~~) A photomask material comprising:
  - 2              a mask blank in the form of a transparent substrate;
  - 3              an opaque layer directly over and contacting the transparent substrate;
  - 4              a metal layer directly over and contacting the opaque layer;
  - 5              a resist layer directly over and contacting the metal layer having a thickness
  - 6              ranging from about 1000 Å to about 2000 Å to provide for improved achievable
  - 7              minimum resolution on the photomask.

- 1        2. (original) The photomask material of claim 1 wherein the transparent substrate is made of a material selected from the group consisting quartz, glass, silica glass, polysilicate glass, soda glass, and thin membrane materials made of silicon, SiN, SiC and diamond.

- 1        3. (Currently Amended~~original~~) The photomask material of claim 1-2 wherein the opaque layer comprises a chrome-based material selected from the group consisting of chrome and Cr:O:N.

1       4.     ~~(Currently Amended original)~~ The photomask material of claim 1-3 wherein  
2       the metal layer comprises a material selected from the group consisting of  
3       tungsten, tungsten-silicon, tantalum, and tantalum-silicon, ~~and~~ copper.

1       5.     ~~(Currently Amended original)~~ The photomask material of claim 4 wherein  
2       the metal layer has a thickness ranging from about 20 Å to about 600-100 Å.

1       6.     ~~(Cancel.)~~

1       7.     ~~(Cancel.)~~

1       8.     ~~(Currently Amended original)~~ A photomask material comprising:  
2              a transparent glass substrate;  
3              a chrome-based layer directly over and contacting the transparent glass  
4              substrate;  
5              a copper ~~metal~~ layer comprising a material selected from the group consisting  
6              of ~~tungsten, tungsten-silicon, tantalum, tantalum-silicon, and copper~~ directly  
7              over and contacting the chrome-based layer; and  
8              a resist layer directly over and contacting the copper ~~metal~~ layer.

1       9. (original) The photomask material of claim 8 wherein the chrome-based  
2       layer comprises a material selected from the group consisting of chrome and  
3       Cr:O:N deposited to a thickness ranging from about 700 Å to about 1200 Å.

1       10. (Cancel.)

1       11. (Currently Amended original) The photomask material of claim 9 wherein  
2       the copper metal layer comprising a material selected from the group consisting of  
3       tungsten, tungsten silicon, tantalum, tantalum silicon, and copper and is deposited  
4       to a thickness ranging from about 100 Å to about 600 Å.

1       12. (Currently Amended original) The photomask material of claim 119  
2       wherein the resist layer has a thickness ranging from about 1000 Å to about 2000  
3       Å to provide for improved achievable minimum resolution on the photomask.

1       13. (Currently Amended original) A method of manufacturing a photomask  
2       comprising:  
3           providing a transparent substrate;  
4           depositing an opaque layer directly over and contacting the transparent  
5           substrate;  
6           depositing a metal layer directly over and contacting the opaque layer to a  
7           thickness ranging from about 20 Å to about 600 Å;

8        depositing~~coating~~ a resist layer over the metal layer having a thickness ranging  
9        from about 1000 Å to about 2000 Å;  
10      imaging the resist layer to form a resist mask pattern thereby exposing portions  
11      of the metal layer;  
12      etching the exposed portions of the metal layer using a first etchant that etches  
13      the metal layer faster than the underlying opaque layer to create a metal  
14      layer image; and  
15      transferring the metal layer image into underlying exposed portions of the  
16      opaque layer using a second etchant that etches the opaque layer faster  
17      than the metal layer to form a photomask in the opaque layer, whereby the  
18      thickness of the resist layer provides for improved achievable minimum  
19      resolution, image quality and critical dimension uniformity of the  
20      photomask.

1        14. (original) The method of claim 13 further comprising after transferring the  
2      metal layer image into the underlying opaque layer, removing any remaining metal  
3      layer.

1        15. (original) The method of claim 13 wherein the opaque layer comprises a  
2      chrome-based material selected from the group consisting of chrome and Cr:O:N  
3      deposited to a thickness ranging from about 700 Å to about 1200 Å.

1       16. (Currently Amended original) The method of claim 13 wherein the metal  
2       layer comprises a material selected from the group consisting of ~~tungsten,~~  
3       ~~tungsten silicon,~~ tantalum, tantalum-silicon, and copper ~~deposited to a thickness~~  
4       ~~ranging from about 100Å to about 600Å.~~

1       17. (Cancel.)

1       18. (Cancel.)

1       19. (Cancel.)

1       20. (original) The method of claim 13 wherein the step of etching exposed  
2       portions of the metal layer to form the hard mask image comprises etching the  
3       metal layer using an etchant which is highly selective to the metal layer whereby  
4       the etchant removes only the metal layer and leaves the underlying opaque layer  
5       intact.

Please add new claims 21-24 as follows:

1       21. (New.) The photomask material of claim 5 further including an adhesion  
2       promoting layer between the metal layer and the resist layer.

1       22. (New.) The photomask material of claim 21 wherein the adhesion  
2       promoting layer comprises Hexa-methyl-disilizane.

1       23. (New.) The photomask material of claim 8 further including an adhesion  
2       promoting layer between the metal layer and the resist layer.

1       24. (New.) The method of claim 13 further including depositing an adhesion  
2       promoting layer between the metal layer and the resist layer.